REMARKS

This Amendment responds to the Final Office Action mailed August 3, 2009, in the above-identified application. A Request for Continued Examination (RCE) accompanies this Amendment. Based on the foregoing amendments and the following comments, allowance of the application is respectfully requested.

Claims 1-20 are pending in the application. By this Amendment, claims 1-6, 9, 10, 17 and 20 have been amended. The amendments find clear support in the original application at least at page 4, second and third paragraphs. No new matter has been added.

The Examiner has rejected claims 1-20 under 35 U.S.C. §103(a) as unpatentable over Sommer et al. (WO 01/85241) in view of Danby et al. (US 5,680,111). The rejection is respectfully traversed for the following reasons.

Sommer discloses a breath-controlled inhalation therapy device in which an infrared light transmitter is disposed adjacent to an infrared light receiver in an opening in the mouthpiece of the therapy device (Figs. 1-3). The infrared light emitted by the transmitter arrives in a detection area in which an aerosol is located. The infrared light is reflected by particles or droplets of the aerosol and arrives at the receiver, which emits an output signal that corresponds to the density of the aerosol.

Danby discloses a device for detection of air or air bubbles in transparent or translucent tubing carrying a fluid (Abstract). As shown in Fig. 3 of Danby, tubing 14 carries a fluid (col. 4, lines 47-57). The sensor includes an infrared transmitter 21 (col. 4, line 34) and sensors 20a and 20b. A transparent optical spacer 15 holds tubing 14 (col. 4, line 58 to col. 5, line 6).

Amended claim 1 is directed to a device for detecting the parameters of an aerosol, in an inhalation therapy device, comprising, in part, a transmitting means which is disposed on a body that at least partially surrounds an aerosol area and which emits radiation into said aerosol area, wherein droplets from the aerosol adhere to the body in an area through which the radiation is transmitted from said transmitting means into said aerosol area, a translucent material disposed between said transmitting means and said aerosol area, first receiving means which is disposed in relation to said transmitting means so as to primarily receive transmission radiation that passes

through the aerosol area in an unscattered manner, a receiving means which is disposed in relation to the transmitting means so as to primarily receive scattered radiation and a control means which receives output signals from the first and second receiving means to determine the parameters of an aerosol in the aerosol area.

In the Response to Arguments section of the Office Action, the Examiner contends that Sommer discloses a receiving means disposed in relation to the transmitting means so as to primarily receive transmission radiation. Applicants do not concur with the Examiner's interpretation of Sommer. Nonetheless, in order to advance prosecution of the application, claim 1 has been amended to recite that the first receiving means is disposed in relation to the transmitting means so as to primarily receive transmission radiation that passes through the aerosol area in an unscattered manner. Sommer does not disclose a first receiving means as required by amended claim 1.

The Examiner concedes that Sommer lacks the second receiving means, but relies upon Danby for teaching this limitation. The Examiner also relies upon Danby for teaching a translucent material. Applicant concedes that Danby teaches a scattered radiation detector and use of a translucent material per se, but respectfully submits that the combination of Sommer and Danby does not result in the claimed invention.

Applicants have discovered that, in detecting the parameters of an aerosol, two detectors that detect transmission radiation and scattered radiation, respectively, provide improved results with respect to a single detector that operates by reflection. Danby does not teach detection of aerosol parameters and thus cannot teach how to obtain improved results in detecting aerosol parameters. Instead, Danby teaches a sensor for air bubbles in a liquid.

It is submitted that the Examiner has underestimated the differences between the task of detecting an aerosol in an aerosol area and the task of detecting air/air bubbles in a liquid. In Danby, the liquid is supplied through tubing and is in permanent contact with the inner surface of the tubing. The air bubbles travel with the liquid and there is no reason for the air bubbles to adhere

at a certain location on the inner surface of the tubing. Therefore, the sensor observation is not deteriorated by air bubbles adhering to the sensing area.

In contrast to the detection of air bubbles in a liquid, aerosol particles are transported in a flow of air. There is a reasonable likelihood that aerosol particles or droplets will adhere to any surface of the tube guiding the aerosol, including those areas which are used for transmitting the measurement light into the detection area. Because of these differences, Applicant submits that the skilled person would not apply the teachings of Danby to the aerosol sensing device of Sommer.

The Examiner notes that Danby suggests that transparent tubing and translucent tubing are interchangeable and contends that one having ordinary skill in the art would easily and readily recognize that the transparent tube of Sommer could be substituted for a translucent tube as taught by Danby. Applicants must respectfully disagree with this reasoning. Applicants have discovered that, in detecting aerosol parameters, translucent tubing is not interchangeable with transparent tubing. Instead, a translucent material disposed between the transmitting device and the aerosol area provides improved results with respect to a transparent tube in detecting aerosol parameters. This result is not taught by Danby, since Danby suggests that transparent tubing and translucent tubing are interchangeable and since Danby does not relate to detection of aerosol parameters.

A further distinction over Danby relates to the sensor outputs described by Danby. At column 6, Table 2, Danby teaches that for air, sensor 20a (scattered light) produces a high output and sensor 20b (transmitted light) produces a high output. Danby further teaches that for water, sensor 20a produces a low output and sensor 20b produces a high output. By contrast, in detecting an aerosol in accordance with the teachings of the present invention, sensor 8 (transmitted radiation) produces a low output signal and sensor 9 (scattered radiation) produces a high output signal (page 5, fourth paragraph of the present application). Thus, in addition to the distinctions above, the manner of analyzing the sensor outputs taught by Danby differs from the present invention. For these additional reasons, Applicant submits that the skilled person would not apply the teachings of Danby to the aerosol sensing device of Sommer.

For at least these reasons, amended claim 1 is clearly and patentably distinguished over Sommer in view of Danby, and withdrawal of the rejection is respectfully requested.

Claims 2-19 depend from claim 1 and are patentable over the cited references for at least the same reasons as claim 1.

Amended claim 20 is directed to a device for detecting the parameters of an aerosol, comprising, in part, a translucent tube that at least partially surrounds an aerosol area including aerosol droplets or particles, a transmitting device which is disposed on the translucent tube and which emits radiation into said aerosol area through the translucent tube, wherein droplets from the aerosol adhere to the translucent tube in an area through which the radiation is transmitted from said transmitting device into said aerosol area, a first receiving device disposed on the translucent tube, a second receiving device disposed on the translucent tube, and a controller which receives signals from the first and second receiving devices to determine the parameters of the aerosol in the aerosol area.

As should be apparent from the above discussion, the combination of Sommer and Danby does not disclose or suggest a device for detecting the parameters of an aerosol as defined by amended claim 20. In particular, the combination of Sommer and Danby does not disclose or suggest a device for detecting aerosol parameters including a translucent tube, a transmitting device disposed on the translucent tube such that the transmitting device transmits radiation into the aerosol area through the translucent tube, a first receiving device and a second receiving device, as claimed. For at least these reasons and the reasons discussed above, amended claim 20 is clearly and patentably distinguished over Sommer in view of Danby, and withdrawal of the rejection is respectfully requested.

Based upon the above discussion, claims 1-20 are in condition for allowance.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 23/2825, under Docket No. P0777.70001US00 from which the undersigned is authorized to draw.

Dated: November 3, 2009

Respectfully submitted,

By William R. McClellan

William R. McClellan, Reg. No. 29,409
WOLF, GREENFIELD & SACKS, P.C.
Federal Reserve Plaza
600 Atlantic Avenue
Boston, Massachusetts 02210-2206
617.646.8000